REMARKS

This response accompanies a Request for Continued Examination (RCE). Claims 1-8, 10-13, and 16-34 are pending. Claims 1 and 32-34 are amended stylistically. The amendment to claim 1 finds basis at paragraph 0024 on page 7 and paragraph 0042 on page 12 of the filed application.

Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 1-8, 10-13, and 16-34 are rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter. Although Applicants submit the transitional term 'comprising' is synonymous with "including" (*see* MPEP 2163 II), neither of which require specifying other materials besides those recited, claims 1 and 32-34 have been amended to remove the objectionable language. Withdrawal of the rejection is respectfully requested.

Rejections Under 35 U.S.C. § 102(b)

Claims 1-8, 10-13, 16-22, 24, 25, 27-31, and 34 were rejected as allegedly anticipated under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,994,493 ("the 493 patent"). Applicants respectfully traverse as the 493 patent does not disclose or suggest several features of the pending claims.

Aromatic diol component

The 493 patent concerns a polyurethane composition based on (i) polyether polyols and/or polyester polyols and (ii) aromatic diols. *See*, for example, the Abstract and column 4, lines 23-39. Aromatic polyols are defined in the 493 patent as an alkoxylation product of an aromatic polyhydroxy compound. *See*, the 493 patent at column 5, lines 5-6. The 493 patent does not teach at least one reaction product lacking an aromatic diol component as claimed by Applicants.

The Office, however, asserts that the instant claims "do not exclude the polyethers from being initiated by the aromatic polyol of the reference." Office Action at page 9. The Office further states that polyol (ii) of the 493 patent is encompassed by the instant claims.

Office Action at page 7. Polyol (ii) contains "at least one aromatic dihydroxy compound." 493 patent at column 10, lines 34-35.

Applicants submit that claim 1 does not merely recite polyether-polyols but claim 1 further states that the "polyether-polyols are selected from the group consisting of polytetramethylene glycols, polypropylene glycols, copolymers of ethylene oxide and propylene oxide, and alkylene diols." None of these compounds are derived from aromatic diols. Accordingly, aromatic polyol containing compounds are not encompassed by the polyethers specified in the instant claims.

The Office further asserts that the language "at least one compound" in connection with component (b) of the present claims contributes to the inclusion of aromatic diol residues in the instantly contained compositions. Office Action at pages 7 and 9. With respect to component (b), even if there is more than one compound encompassed by the "at least one" language, each of such compounds is limited to those selected from the group consisting of polyether-polyols having number average molecular weights less than 1,000, polyalkylene diols having number average molecular weights less than 1,000, and polyester-polyols which are crystalline, partly crystalline or vitreously amorphous. And to the extent the compound contains polyether-polyol, as noted above, the claim further defines such compounds as being selected from the group consisting of polytetramethylene glycols, polypropylene glycols, copolymers of ethylene oxide and propylene oxide, and alkylene diols. Thus, the recited features of (i) do not include an aromatic diol component.

Instead, it appears the Examiner takes the position that "additional components", presumably such as an aromatic diol, "of the component (i) of the instant claims remain encompassed by 'consisting essentially of' because the applicant has not demonstrated any additional components of the cited prior art to materially affect the basic and novel characteristics of the composition . . . ." Office Action at page 10. In this regard, Applicants submit that one skilled in the art would not expect a product including aromatic diols to have the same properties as a compound containing aliphatic diols. Switching from an aliphatic to an aromatic component would typically affect basic characteristics of the product, such as the melting point and crystallinity of the segments containing these groups, due to the well known propensity for aromatic compounds to be oriented in a relatively flat configuration

which impacts packing of molecules. Accordingly, the reaction product (i) of claim 1 is not properly interpreted to include an aromatic diol component.

For at least the reasons discussed above, Applicants request reconsideration and withdrawal of the rejection.

Adhesion-intensifying additive

In addition, the 493 patent does not disclose or suggest use of the instantly claimed adhesion-intensifying additive. The Office asserts that the cited art "inherently" contains the instantly contained adhesion-intensifying additives due to low molecular weight components in the reacted product. Office Action at page 8. With respect to inherency, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art). "Inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999).

In this case, the vapor pressure of the isocyanates listed at column 7, lines 1-6 and in claims 9, 18, and 29 of the 493 patent would not necessarily have the instantly claimed vapor pressure. In fact, there is evidence to the contrary. For example, isomeric toluene disisocyanate (TDI) and 1-isocyanatomethyl-3-isocyanato-1,5,5-trimetyl cyclohexane (IPDI) have a boiling point at a pressure of more than 0.1hPa (see portion of Encyclopedia of Polymer Science, submitted herewith). Such compounds would not be expected to have the low vapor pressure recited in claim 1. Consequently, any unreacted low molecular molecules of such isocyantes would not be expected to fall within the instantly claimed adhesion-intensifying additive. Applicants submit that one skilled in the art would have similar expectations for the remaining recited compounds of the 493 patent.

For at least this reason, the 493 patent does not teach or suggest the instantly claimed adhesion-intensifying additives, and reconsideration and withdrawal of the rejection is requested on this basis as well.

Content of monomeric diisocyanate

Amended claim 1 recites that the adhesive has a monomeric diisocyanate content of less than 0.5 wt.%. Such a low level of monomer is not taught or suggested by the 493 patent. The Office, however, takes the position that "there is no evidence that the polyurethane of [the 493 patent] contains more monomeric isocyanate than encompassed by claim 2 . . . ." See Office Action at page 9. Applicants disagree and to the extent the Office Action relies on an inherency argument, it again fails to meet the burden. Indeed, the alleged lack of evidence at least equally does not mean such a low amount of monomeric diisocyanate *is* present in the 493 patent. As discussed above, mere possibilities or probabilities are not enough to establish inherency.

Instead, there is evidence that the monomer limitation of the present claims is not disclosed in the 493 patent disclosure. For example, the Examples and Comparative Examples of the instant specification show that monomer content rises for examples using 4,4'-MDI versus examples where the MDI is predominantly 2,4'-MDI. *See*, pages 14-15 of the instant specification, including the Table. In the 493 patent, the MDI used in the examples is a 1:1 mixture of 4,4'-MDI and 2,4'-MDI whereas the instant claims recite MDI having at least 95 wt.% of 2,4'-diphenylmethane diisocyanate. Thus, the claimed low monomer content would not necessarily follow from the 493 patent, and, in fact, the 493 patent disclosure would be expected to produce products having a higher monomer content than recited in the instant claims.

Moreover, the fact that the 493 patent generally discloses that 2,4'-diphenylmethane diisocyante (2,4'-MDI) is a possible selection for the diisocyanate in claim 9 of the 493 patent does not disclose or suggest the use of at least 95wt% of such a diisocyanate as claimed by Applicants. Indeed, the 493 patent discloses only mixtures of 4,4'-MDI and 2,4'-MDI that fall below the 95% range or use of "pure" 2,4'-MDI in a two step process where any 2,4'-MDI would be used in a second step after reaction with a different diisocyanate. See, for example, column 4, line 53 to column 5, line 4 and claim 18 (which depends from claim 16).

For at least these additional reasons, Applicants respectfully request reconsideration and withdrawal of the rejection.

Solid polyester-polyols

Applicants also note that the polyester-polyols of the instant claims are crystalline, partly crystalline or vitreously amorphous. Such polyols fall within the definition of "solid at room temperature" presented in the instant specification. *See*, paragraph 0020 on page 7 of the filed specification. The 493 patent, in contrast, teaches use of liquid polyols. See, for example, the Abstract of the 493 patent. In particular, the polyols are liquid at room temperature (the 493 patent at column 4, lines 27-32).

Despite this contrast between the polyester polyols of the 493 patent and the instant claims, the Office asserts that the "liquid" polyols of the 493 patent are expected to contain partly crystalline polyols. Office Action at page 7-8. It is unclear where the basis is for such an allegation as none is provide in the 493 patent. The cited 493 patent instead teaches use of liquid polyester-polyols, not solid (i.e., crystalline, partly crystalline or vitreously amorphous) polyester-polyols. Thus, the polyols are not properly interpreted to be identical.

This is another reason supporting Applicants request for reconsideration and withdrawal of the rejection.

Rejections Under 35 U.S.C. § 103(a)

Claims 1-8, 10-13, and 16-34 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over the 493 patent.

To establish a *prima facie* case of obviousness, there must be some reason, either in the documents of record themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the documents or to combine cited teachings. *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). Moreover, the cited document (or documents when combined) must teach or suggest all the claim limitations. The reason to make the claimed combination, and a reasonable expectation of success, must be found elsewhere than in Applicants' disclosure, such as in the cited documents, the nature of the problem to be solved, or in the knowledge/understanding of the person of ordinary skill in the art. MPEP § 2143; *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Applicants submit that the instant rejection does not meet these requirements.

As set forth above, there is no teaching or suggestion or any reason to modify the teachings of the 493 patent to meet each and every limitation of the pending claims. There is

no suggestion to arrive at a reaction product in the adhesive that does not include an aromatic diol component. There is further no suggestion or reason to modify the 493 patent to arrive at Applicants claimed adhesion-intensifying agent, low monomer content, and solid polyester polyols. Accordingly, the 493 patent does not support a *prima facie* case of obviousness. Withdrawal of the rejection is respectfully requested.

Alleged Obviousness-Type Double Patenting

Claims 1-8, 10-13, 16-22, 24, 25, 27-31, and 34 were rejected on the ground of alleged nonstatutory obvious-type double patenting over claims 1-29 of the 493 patent). For reasons analogous to those discussed for the § 103(a) rejection, the nonstatutory obvious-type double patenting rejection should be withdrawn. As discussed above, the whole of the 493 patent does not render the pending claims obvious. As such, a rejection relying on only the claims of the 493 patent also would not render the pending claims obvious.

Conclusion

Applicants believe that the foregoing constitutes a complete and full response to the Office Action of record. Accordingly, an early and favorable reconsideration of the rejections and an allowance of all of pending claims is earnestly solicited.

Respectfully submitted,

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